

Amendments to the Claims

Please amend the claims as follows:

1. - 73. (Cancelled)

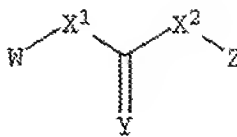
74. (New) A method for controlling aberrant cell proliferation comprising

a) contacting a cell population comprising aberrantly proliferating cells with at least one Chk1 activator for from about 30 minutes to about 96 hours wherein the Chk1 activator is selected from the group consisting of

mechlorethamine, cyclophosphamide, ifosfamide, melphalan, chlorambucil, carmustine (BCNU), lomustine (CCNU), semustine (methyl-CCNU), triethylenemelamine (TEM), triethylene thiophosphoramide (thiotepa), hexamethylmelamine (HMM, altretamine), busulfan, dacarbazine (DTIC), methotrexate, trimetrexate, pemetrexed (multi-targeted antifolate), 5-fluorouracil (5-FU), fluorodeoxyuridine, gemcitabine, cytosine arabinoside (AraC, cytarabine), 5-azacytidine, 2,2'-difluorodeoxycytidine, 6-mercaptopurine, 6-thioguanine, azathioprine, 2'-deoxycoformycin (pentostatin), erythrohydroxynonyladenine (EHNA), a fludarabine salt, 2-chlorodeoxyadenosine (cladribine, 2-CdA), camptothecin (CPT), topotecan, irinotecan, etoposide, teniposide, vinblastine, vincristine, vinorelbine, actinomycin D, doxorubicin, bleomycin, 5-bromodeoxyuridine, 5-iododeoxyuridine, bromodeoxycytidine, cisplatin, carboplatin, oxaliplatin, hydroxyurea, and x-ray radiation

in an amount sufficient to substantially synchronize cell cycle arrest among said aberrantly proliferating cells at a target phase, and

b) upon achieving said substantial synchronization of cell cycle arrest among said aberrantly proliferating cells, contacting said cell population with a selective Chk1 inhibitor for from up to about 1 hour to up to about 72 hours wherein the selective Chk1 inhibitor is a compound of formula



wherein X1 is null, -O-, -S-, -CH₂-, or -N(R1)-;

X2 is -O-, -S-, or -N(R1)-; Y is O or S; or =Y represents two hydrogen atoms attached to a common carbon atom; W is selected from the group consisting of heteroaryl, aryl, heterocycloalkyl, cycloalkyl, and C13 alkyl substituted with a heteroaryl or aryl group;

W and Z are selected from the group consisting of hydro, aryl, and heteroaryl; wherein said aryl groups of W and Z are optionally substituted with one to four substituents represented by R2, said heteroaryl groups of W and Z are optionally substituted with one to four substituents represented by R5, and said heterocycloalkyl and cycloalkyl groups of W are optionally substituted with one to two substituents represented by R6;

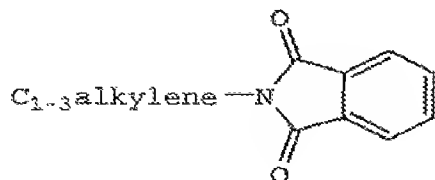
R1 is selected from the group consisting of hydro, C1-6alkyl, C2-6alkenyl, C2-6alkynyl, and aryl;

R2 is selected from the group consisting of halo, optionally substituted C1-6alkyl, C2-6alkenyl, OCF₃, NO₂, CN, NC, N(R₃)₂, OR₃, CO₂R₃, C(O)N(R₃)₂, C(O)R₃, N(R₁)COR₃, N(R₁)C(O)OR₃, N(R₃)C(O)OR₃, N(R₃)C(O)C1-3alkyleneC(O)R₃, N(R₃)C(O)C1-3alkyleneC(O)OR₃, N(R₃)C(O)C1-3alkyleneOR₃, N(R₃)C(O)C1-3alkyleneNHC(O)-OR₃, N(R₃)C(O)C1-3alkyleneSO₂NR₃, C1-3alkyleneOR₃, and SR₃;

R3 is selected from the group consisting of hydro, C1-6alkyl, C2-6alkenyl, cycloalkyl, aryl, heteroaryl, SO₂R₄, C1-6alkyl substituted with one or more of halo, hydroxy, aryl, heteroaryl, heterocycloalkyl, N(R₄)₂, and SO₂R₄, C1-3alkylenearyl, C1-3alkyleneheteroaryl, C1-3alkyleneC3-8heterocycloalkyl, C1-3alkyleneSO₂aryl, optionally substituted C1-3alkyleneN(R₄)₂, OCF₃, C1-3alkyleneN(R₄)₃⁺, C3-8heterocycloalkyl, and CH(C1-3alkyleneN(R₄)₂)₂, or two R₃ groups are taken together to form an optionally substituted 3-to 6-membered aliphatic ring;

R4 is selected from the group consisting of hydro, C1-6alkyl, cycloalkyl, aryl, heteroaryl, C1-3-alkylenearyl, and SO₂C1-6alkyl, or two R₄ groups are taken together to form an optionally substituted 3-to 6-membered ring;

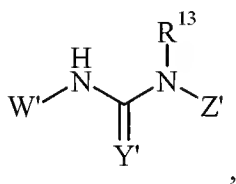
R5 is selected from the group consisting of C1-6alkyl, aryl, N(R3)2, OR3, halo, N3, CN, C1-3alkylenearyl, C1-3alkyleneN(R3)2, C(O)R3, and



R6 is selected from the group consisting of halo and C1-6alkyl; or a pharmaceutically acceptable salt thereof

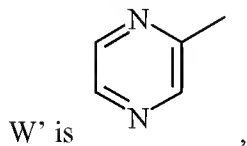
in an amount sufficient to substantially abrogate said cell cycle arrest.

75. (New) The method of Claim 74, wherein said selective Chk1 inhibitor is a compound of formula

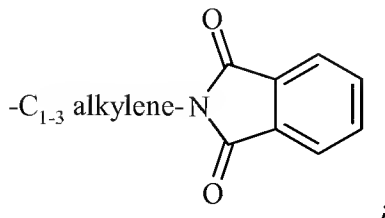


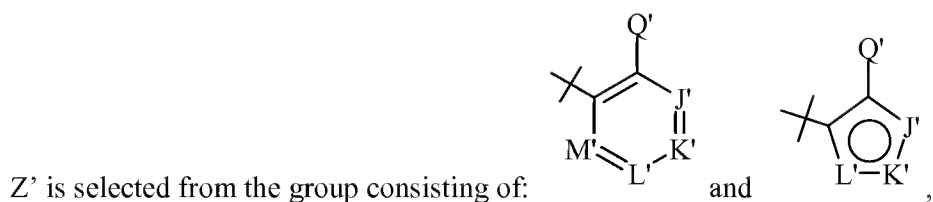
wherein:

Y' is O or S;



optionally substituted with from one to four substituents selected from the group consisting of C1-6alkyl, aryl, N(R7)2, OR7, N3, CN, C(O)R7, C1-3alkylenearyl, C1-3alkyleneN(R2)2, halo, and





wherein:

Q' is OR⁷;

J' is selected from the group consisting of CR⁸, NR⁸, O, and S;

K' is selected from the group consisting of CR⁹, NR⁹, O, and S;

L' is selected from the group consisting of CR¹⁰, NR¹⁰, O, and S;

M' is selected from the group consisting of CR¹¹, NR¹¹, O, and S;

wherein:

R⁷ is C₁₋₃alkyleneC₃₋₈heterocycloalkyl;

R⁸, R⁹, and R¹⁰ are each independently selected from the group consisting of hydro, halo, optionally substituted C₁₋₆alkyl, C₂₋₆alkenyl, OCF₃, NO₂, CN, NC, N(R⁷)₂, OR⁷, CO₂R⁷, C(O)N(R⁷)₂, C(O)R⁷, N(R¹³)C(O)R⁷, N(R¹³)C(O)OR⁷, N(R⁷)C(O)OR⁷, N(R⁷)C(O)C₁₋₃alkyleneC(O)R⁷, N(R⁷)C(O)C₁₋₃alkyleneC(O)OR⁷, N(R⁷)C(O)C₁₋₃alkyleneOR⁷, N(R⁷)C(O)C₁₋₃alkyleneNHC(O)OR⁷, N(R⁷)C(O)C₁₋₃alkyleneSO₂NR⁷, CF₃, C₁₋₃alkyleneN(R¹²)SO₂aryl, C₁₋₃alkyleneN(R¹²)SO₂heteroaryl, C₁₋₃alkyleneOC₁₋₃alkylenearyl, C₁₋₃alkyleneN(R¹²)C₁₋₃alkylenearyl, C₁₋₃alkyleneN(R¹²)C₁₋₃alkyleneheteroaryl, C₁₋₃alkyleneN(R¹²)C(O)R⁷, C₁₋₃alkyleneN(R¹²)C(O)C₁₋₃alkyleneOR², C₁₋₃alkyleneN(R¹²)C(O)aryl, C₁₋₃alkyleneN(R¹²)C(O)C₁₋₃alkyleneN(R¹²)₂, C₁₋₃alkyleneN(R¹²)C(O)heteroaryl, C₁₋₃alkyleneOR⁷, and SR⁷, wherein R⁷ is as defined above;

R¹¹ is selected from the group consisting of hydro, optionally substituted C₁₋₆alkyl, and halo;

R¹² is selected from the group consisting of hydro, C₁₋₆alkyl, cycloalkyl, aryl, heteroaryl, C₁₋₃alkylenearyl, and SO₂C₁₋₆alkyl, or two R¹² groups are taken together to form an optionally substituted 3- to 6-membered ring; and

R¹³ is hydro;

or a pharmaceutically acceptable salt thereof.

76. (New) The method of claim 75, wherein said cell population is contacted with a Chk1 activator for from about 30 minutes to about 48 hours.

77. (New) The method of claim 76, wherein said cell population is in a human.

78. (New) The method of claim 77, wherein said aberrantly proliferating cells comprise cells from non-small cell lung cancers.

79. (New) The method of claim 77, wherein said Chk1 activator is gemcitabine.

80. (New) The method of claim 79, wherein said selective Chk1 inhibitor is 1-[5-methyl-2-(3-piperidin-1-yl-propoxy)-phenyl]-3-(5-methyl-pyrazin-2-yl)-urea.

81. (New) The method of claim 80, wherein said aberrantly proliferating cells comprise cells from non-small cell lung cancers.